

- Unvented gearhousing for universal horizontal mounting
- Permanently lubricated with high-performance lubricant
- Helical primary gear for quietness and hardened steel spur gearing on subsequent stages for high output torque and long life
- Models with accessory shafts are ideal for mounting encoders or brakes
- See Page 36 for capacitors and accessories
- See page 39 for reference dimensions

Variable Speed – Pacesetter Inverter Duty AC Gearmotors



Type 34R-Z Inverter Duty

| Fixed Speed Rating | | | | | Variable Speed (SOA) Ratings ¹ | | | | | Product Type | (230V) Model Number | |
|--|-----------------|----------|------|------------|---|----------------------|-------------|-------------------------|-------------------------|--------------|---------------------|-------------------------|
| Speed (rpm) | Torque (lb-in.) | Motor HP | A | Gear Ratio | Speed Range (rpm) | Frequency Range (Hz) | Torque Type | Torque @ 10 Hz (lb-in.) | Torque @ 60 Hz (lb-in.) | | | Torque @ 90 Hz (lb-in.) |
| Three-Phase, Inverter Duty, Non-synchronous, 230 VAC (TENV) | | | | | | | | | | | | |
| 9 | 120 | 1/6 | 0.73 | 180 | 0.9-13 | 10-90 | constant | 120 | 120 | 120 | 34R6BEPP-Z4 | 2220 |
| 19 | 120 | | | 90 | 1.8-26 | | | 120 | 120 | 120 | 34R6BEPP-Z4 | 2222 |
| 28 | 120 | | | 60 | 2.8-39 | | | 120 | 120 | 120 | 34R6BEPP-Z3 | 2224 |
| 57 | 96 | | | 30 | 5.5-78 | | | 96 | 96 | 96 | 34R6BEPP-Z3 | 2226 |
| 94 | 39 | | | 18 | 16-143 | | | 39 | 39 | 39 | 34R6BEPP-Z2 | 2227 |
| 283 | 21 | | | 6 | 28-391 | | | 21 | 21 | 21 | 34R6BEPP-Z2 | 2228 |

Fixed Speed – AC Gearmotors



Type 34R-Z

| Speed (rpm) | Rated Torque (lb-in.) | Motor HP | V | Hz | Ph | Amps | Gear Ratio | Radial Load (lbs.) | Capacitor (µF/VAC) | Product Type | Model Number |
|---|-----------------------|----------|-----|-------------|------|------|------------|--------------------|--------------------|--------------|--------------|
| Permanent Split Capacitor, Non-synchronous | | | | | | | | | | | |
| CAPACITOR IS REQUIRED | | | | | | | | | | | |
| 9.6 | 100 | 1/15 | 115 | 60 | 1 | 1.0 | 180 | 125 | 10.0/250 | 34R4BFCI-Z4 | 0449 |
| 19 | 100 | | | | | | 90 | 125 | | 34R4BFCI-Z4 | 0448 |
| 28 | 100 | | | | | | 60 | 125 | | 34R4BFCI-Z3 | 0455 |
| 57 | 57 | | | | | | 30 | 125 | | 34R4BFCI-Z3 | 0454 |
| 94 | 36 | | | | | | 18 | 100 | | 34R4BFCI-Z2 | 0453 |
| 142 | 24 | | | | | | 12 | 100 | | 34R4BFCI-Z2 | 0452 |
| 283 | 12 | 6 | 100 | 34R4BFCI-Z2 | 0451 | | | | | | |

Permanent Magnet DC Gearmotors



Type 24A-Z



Type 33A-Z

| Speed (rpm) | Rated Torque (lb-in.) | Rated Current (Amps) | | Peak Torque (lb-in.) | Motor HP | Gear Ratio | Radial Load (lbs.) | Product Type ² | Accy Shaft | No Accy Shaft | Accy Shaft | No Accy Shaft |
|-----------------------------|-----------------------|----------------------|------|----------------------|-------------|------------|--------------------|---------------------------|------------|---------------|------------|---------------|
| | | 24V | 130V | | | | | | 24V | 130V | | |
| 24A-Z PMDC Gearmotor | | | | | | | | | | | | |
| 14 | 100 | 2.6 | 0.48 | 115 | 1/17 | 180 | 125 | 24A4BEPM-Z4 | 4963 | 4663 | 4563 | 0163 |
| 28 | 92 | | | 115 | | 90 | 125 | 24A4BEPM-Z4 | 4962 | 4662 | 4562 | 0162 |
| 42 | 65 | | | 115 | | 60 | 125 | 24A4BEPM-Z3 | 4961 | 4661 | 4561 | 0161 |
| 83 | 33 | | | 59 | | 30 | 125 | 24A4BEPM-Z3 | 4960 | 4660 | 4560 | 0160 |
| 139 | 21 | | | 38 | | 18 | 100 | 24A4BEPM-Z2 | 4959 | 4659 | 4559 | 0159 |
| 208 | 14 | | | 25 | | 12 | 100 | 24A4BEPM-Z2 | 4958 | 4658 | 4558 | 0158 |
| 417 | 7 | 13 | 6 | 100 | 24A4BEPM-Z2 | 4957 | 4657 | 4557 | 0157 | | | |
| 33A-Z PMDC Gearmotor | | | | | | | | | | | | |
| 42 | 95 | 3.7 | 0.74 | 115 | 1/12 | 60 | 125 | 33A3BEPM-Z3 | 6969 | 6669 | 6569 | 6169 |
| 83 | 47 | | | 59 | | 30 | 125 | 33A3BEPM-Z3 | 6968 | 6668 | 6568 | 6168 |
| 139 | 31 | | | 38 | | 18 | 100 | 33A3BEPM-Z2 | 6967 | 6667 | 6567 | 6167 |
| 208 | 20 | | | 25 | | 12 | 100 | 33A3BEPM-Z2 | 6966 | 6666 | 6566 | 6166 |
| 417 | 10 | | | 13 | | 6 | 100 | 33A3BEPM-Z2 | 6965 | 6665 | 6565 | 6165 |

SCR Rated – Permanent Magnet DC Gearmotors

90V and 180VDC gearmotors with a maximum rated armature speed of 2500 rpm.



Type 24A-Z, SCR Rated



Type 33A-Z SCR Rated

| Speed (rpm) | Rated Torque (lb-in.) | Rated Current (Amps) | | Form Factor | | Peak Torque (lb-in.) | Motor HP | | Gear Ratio | Radial Load (lbs.) | Product Type | Model Number | |
|---|-----------------------|----------------------|------|-------------|-------------|----------------------|----------|------|------------|--------------------|--------------|--------------|------|
| | | 90V | 180V | 90V | 180V | | 90V | 180V | | | | 90V | 180V |
| Maximum Rated Armature Speed: 2500 rpm | | | | | | | | | | | | | |
| 24A-Z PMDC Gearmotor | | | | | | | | | | | | | |
| 14 | 120 | 0.58 | 0.3 | 1.6 | 1.5 | 139 | 1/20 | 1/19 | 180 | 166 | 24A4BEPM-Z4 | 1245 | 1236 |
| 28 | 77 | | | | | 126 | | | 90 | 193 | 24A4BEPM-Z4 | 1243 | 1235 |
| 42 | 55 | | | | | 137 | | | 60 | 207 | 24A4BEPM-Z3 | 1242 | 1234 |
| 83 | 27 | | | | | 120 | | | 30 | 225 | 24A4BEPM-Z3 | 1241 | 1233 |
| 139 | 18 | | | | | 48 | | | 18 | 142 | 24A4BEPM-Z2 | 1239 | 1232 |
| 208 | 12 | | | | | 44 | | | 12 | 145 | 24A4BEPM-Z2 | 1238 | 1231 |
| 417 | 6 | 20 | 6 | 147 | 24A4BEPM-Z2 | 1237 | 1230 | | | | | | |
| 33A-Z PMDC Gearmotor | | | | | | | | | | | | | |
| 42 | 120 | 1.6 | 0.8 | 1.4 | 1.4 | 137 | 1/7 | 1/7 | 60 | 166 | 33A5BEPM-Z3 | 1189 | 1179 |
| 83 | 87 | | | | | 120 | | | 30 | 187 | 33A5BEPM-Z3 | 1188 | 1178 |
| 139 | 39 | | | | | 48 | | | 18 | 132 | 33A5BEPM-Z2 | 1186 | 1177 |
| 208 | 36 | | | | | 44 | | | 12 | 132 | 33A5BEPM-Z2 | 1185 | 1176 |
| 417 | 19 | | | | | 20 | | | 6 | 137 | 33A5BEPM-Z2 | 1184 | 1175 |

Brushless DC Gearmotors

| Speed (rpm) | Rated Torque (lb-in.) | Rated Current (Amps) | | Peak Torque (lb-in.) | Motor HP | Gear Ratio | Radial Load (lbs.) | Product Type ² | Accy Shaft | No Accy Shaft | Accy Shaft | No Accy Shaft |
|-------------|-----------------------|----------------------|------|----------------------|----------|------------|--------------------|---------------------------|------------|---------------|------------|---------------|
| | | 24V | 130V | | | | | | 24V | | 130V | |
| | | | | | | | | | | | | |
| 14 | 100 | — | 0.72 | 115 | 1/11 | 180 | 110 | 22B3BEBL-Z4 | — | — | 3463 | 3363 |
| 14 | 100 | 3.3 | 0.53 | 115 | 1/16 | 180 | 110 | 22B2BEBL-Z4 | — | 3563 | — | — |
| 21 | 100 | 3.3 | 0.53 | 115 | 1/16 | 120 | 110 | 22B2BEBL-Z4 | — | 3564 | — | 3364 |
| 28 | 100 | 4.4 | 0.72 | 115 | 1/11 | 90 | 110 | 22B3BEBL-Z4 | — | — | 3462 | 3362 |
| 28 | 97 | 3.3 | 0.53 | 115 | 1/16 | 90 | 110 | 22B2BEBL-Z4 | — | 3562 | — | — |
| 42 | 95 | 4.4 | 0.72 | 115 | 1/11 | 60 | 110 | 22B3BEBL-Z3 | 3661 | 3561 | 3461 | 3361 |
| 83 | 52 | 4.4 | 0.72 | 59 | 1/11 | 30 | 125 | 22B3BEBL-Z3 | 3660 | 3560 | 3460 | 3360 |
| 139 | 31 | 4.4 | 0.72 | 38 | 1/11 | 18 | 125 | 22B3BEBL-Z2 | 3659 | 3559 | 3459 | 3359 |
| 208 | 20 | 4.4 | 0.72 | 25 | 1/11 | 12 | 120 | 22B3BEBL-Z2 | 3658 | 3558 | 3458 | 3358 |
| 417 | 10 | 4.4 | 0.72 | 13 | 1/11 | 6 | 100 | 22B3BEBL-Z2 | 3657 | 3557 | 3457 | 3357 |



Type 22B-Z

INTEGRAMotor BLDC Gearmotors

| Motor Output | | | | Control Input | | | Product Type | Model Number | |
|-------------------|---------|-----------------|------------|---------------|-------------|-----------------|----------------|------------------|--------------------------------|
| Speed Range (rpm) | | Torque (lb-in.) | Gear Ratio | HP | Volts (VDC) | Continuous Amps | | Type SR | Type FV |
| Type SR | Type FV | | | | | | | Analog Interface | Digital Interface ³ |
| 0.7-8 | 0.3-8 | 100 | 300 | 1/16 | 24 | 3.3 | 22B2BEBL/**-Z4 | 3864 | 3764 |
| 1-14 | 0.4-14 | 100 | 180 | 1/16 | | 3.3 | 22B2BEBL/**-Z4 | 3863 | 3723 |
| 2-28 | 0.8-28 | 97 | 90 | 1/16 | | 3.3 | 22B2BEBL/**-Z4 | 3862 | 3762 |
| 3-42 | 1.3-42 | 95 | 60 | 1/11 | | 4.4 | 22B3BEBL/**-Z3 | 3861 | 3761 |
| 7-83 | 2.5-83 | 52 | 30 | 1/11 | | 4.4 | 22B3BEBL/**-Z3 | 3860 | 3760 |
| 11-139 | 4.2-139 | 31 | 18 | 1/11 | | 4.4 | 22B3BEBL/**-Z2 | 3859 | 3759 |
| 17-208 | 6.3-208 | 20 | 12 | 1/11 | | 4.4 | 22B3BEBL/**-Z2 | 3858 | 3758 |
| 33-417 | 13-417 | 10 | 6 | 1/11 | | 4.4 | 22B3BEBL/**-Z2 | 3857 | 3757 |



Type 22B/SR-Z and 22B/FV-Z INTEGRAMotor

** INTEGRAMotor can be ordered with either analog (/SR) or digital (/FV) interface option;

up to 210 lb-in. | Parallel Shaft Gearmotors



- Selectively hardened steel helical gears
- Synthentic lubricant
- Adaptor plate, model 0995, allows for 3-hole mounting configuration. See Page 36
- See Page 36 for capacitors and accessories
- See page 39 for reference dimensions

Variable Speed—Pacesetter Inverter Duty AC Gearmotors

| Fixed Speed Ratings | | Variable Speed (SOA) Ratings ¹ | | | | | | Motor HP | Amps | Gear Ratio | Radial Load (lbs.) | Product Type | Model No. |
|--|-----------------|---|----------------------|-------------|-------------------------|-------------------------|-------------------------|----------|-----------|------------|--------------------|--------------|-----------|
| Speed (rpm) | Torque (lb-in.) | Speed Range (rpm) | Frequency Range (Hz) | Torque Type | Torque @ 10 Hz (lb-in.) | Torque @ 60 Hz (lb-in.) | Torque @ 90 Hz (lb-in.) | | | | | | |
| 34R-WX Inverter Duty Gearmotor | | | | | | | | | | | | | |
| Three-Phase, Inverter Duty, 230/460 VAC, Non-synchronous, Reversible (TEFC) | | | | | | | | | | | | | |
| 5 | 210 | 0.4-7.0 | 10-90 | constant | 210 | 210 | 210 | 1/6 | 1.0 / 0.5 | 312 | 300 | 34R4BFPP-WX4 | 2803 |
| 10 | 205 | 0.7-13 | | | 205 | 205 | 205 | | | 172 | 300 | 34R4BFPP-WX4 | 2804 |
| 17 | 195 | 1.2-33 | | | 195 | 195 | 195 | | | 98 | 300 | 34R4BFPP-WX4 | 2805 |
| 26 | 195 | 1.8-33 | | | 195 | 195 | 195 | | | 66 | 300 | 34R4BFPP-WX3 | 2806 |
| 31 | 190 | 2.2-40 | | | 190 | 190 | 190 | | | 55 | 300 | 34R4BFPP-WX3 | 2807 |
| 39 | 157 | 2.7-50 | | | 157 | 157 | 157 | | | 44 | 300 | 34R4BFPP-WX3 | 2808 |
| 57 | 106 | 4.0-73 | | | 106 | 106 | 106 | | | 30 | 290 | 34R4BFPP-WX3 | 2809 |
| 83 | 77 | 5.9-107 | | | 77 | 77 | 77 | | | 20 | 268 | 34R4BFPP-WX2 | 2829 |
| 123 | 46 | 8.7-158 | | | 46 | 46 | 46 | | | 14 | 250 | 34R4BFPP-WX2 | 2830 |
| 181 | 31 | 13-232 | | | 31 | 31 | 31 | | | 9 | 226 | 34R4BFPP-WX2 | 2831 |
| 309 | 18 | 22-397 | | | 18 | 18 | 18 | | | 6 | 195 | 34R4BFPP-WX2 | 2832 |
| 447 | 9 | 32-574 | | | 9 | 9 | 9 | | | 4 | 179 | 34R4BFPP-WX2 | 2833 |



Type 34R-WX Inverter Duty

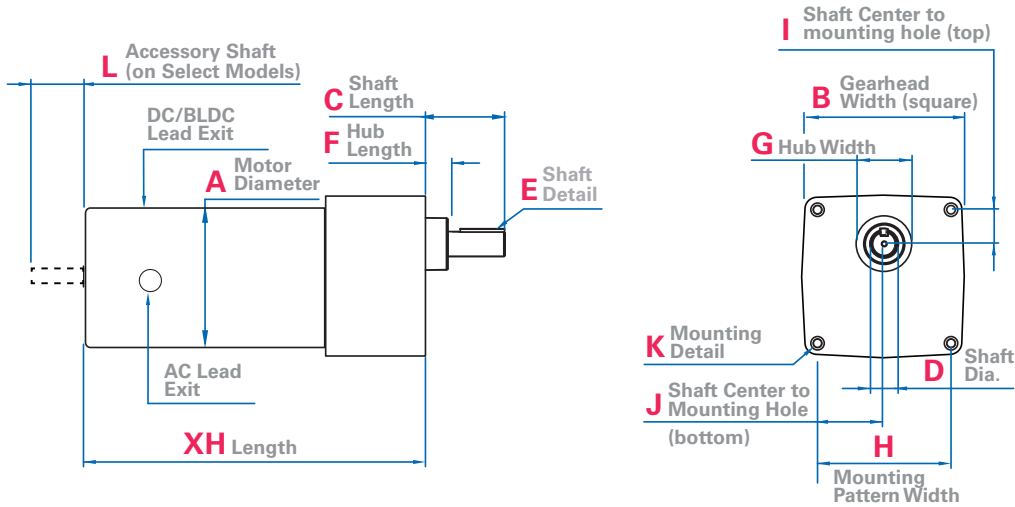
Fixed Speed—AC Gearmotors

| Speed (rpm) | Rated Torque (lb-in.) | Motor HP | V | Hz | Ph | Amps | Gear Ratio | Radial Load (lbs.) | Capacitor (µF/VAC) | Product Type | Model Number |
|---|-----------------------|----------|-----|----|----|------|------------|--------------------|--------------------|--------------|--------------|
| Permanent Split Capacitor, Non-synchronous, 3-Wire-Reversible (TEFC) | | | | | | | | | | | |
| CAPACITOR IS REQUIRED | | | | | | | | | | | |
| 5 | 210 | 1/7 | 115 | 60 | 1 | 1.7 | 312 | 300 | 27.5/250 | 34R6BFCL-WX4 | 1034 |
| 10 | 200 | | | | | | 172 | 300 | | 34R6BFCL-WX4 | 1032 |
| 17 | 195 | | | | | | 98 | 300 | | 34R6BFCL-WX4 | 1029 |
| 26 | 195 | | | | | | 66 | 300 | | 34R6BFCL-WX3 | 1027 |
| 31 | 190 | | | | | | 55 | 300 | | 34R6BFCL-WX3 | 1025 |
| 39 | 157 | | | | | | 44 | 300 | | 34R6BFCL-WX3 | 1023 |
| 57 | 106 | | | | | | 30 | 290 | | 34R6BFCL-WX3 | 1021 |
| 83 | 77 | | | | | | 20 | 268 | | 34R6BFCL-WX2 | 1019 |
| 123 | 46 | | | | | | 14 | 250 | | 34R6BFCL-WX2 | 1016 |
| 181 | 31 | | | | | | 9 | 226 | | 34R6BFCL-WX2 | 1014 |
| 309 | 18 | | | | | | 6 | 195 | | 34R6BFCL-WX2 | 1012 |
| 447 | 9 | | | | | | 4 | 179 | | 34R6BFCL-WX2 | 1010 |



Type 34R-WX

¹ SOA: Contact the factory for detailed speed/torque information (Safe Operating Area). See page 21; ² The fifth character of the product type changes from "B" to "F" for accessory ready models; ³ Type FV INTEGRAMotors require a PWM signal from a motion controller or PLC to operate



Gearhead Type Z, WX, FX pages 6-10

| | Product Type | Wt. (lbs.) | XH Length | A Diameter (Height) | B Width | C Shaft Length | D Shaft Diameter | E Shaft Detail | F Hub Length | G Hub Width | H Mounting Pattern Width | I Shaft Center to Mounting Hole (top) | J Shaft Center to Mounting Hole (bottom) | K Mounting Detail | L Acc'y Shaft | Cord/Lead Length (in.) |
|------------------------------------|--------------|------------|-----------|---------------------|---------|----------------|------------------|----------------|--------------|-------------|--------------------------|---------------------------------------|--|---|---------------|------------------------|
| Type Z Gearmotor | | | | | | | | | | | | | | | | |
| 34R-Z | 34R4-Z4/3 | 9.3 | 8.328 | 4.02 | 3.40 | 1.56 | .500 | Flat/Key | .29 | 1.125 | 2.652 | .582 | 1.326 | [4]10-32 UNF-2B x .38 deep on a 3.75 B.C. | No | 12 |
| | 34R6-Z4/3 | | 8.345 | | | | | | | | | | | | | |
| | 34R4-Z2 | | 7.428 | | | | | | | | | | | | | |
| | 34R6-Z2 | | 7.445 | | | | | | | | | | | | | |
| 24A-Z | 24A4-Z2 | 5.0 | 6.890 | 2.42 | 3.40 | 1.56 | .500 | Flat/Key | .29 | 1.125 | 2.652 | .582 | 1.326 | [4]10-32 UNF-2B x .38 deep on a 3.75 B.C. | Yes | 24 |
| | 24A4-Z3/Z4 | | 7.790 | | | | | | | | | | | | | |
| 33A-Z | 33A3-Z2 | 5.8 | 6.895 | 3.39 | 3.40 | 1.56 | .500 | Flat/Key | .29 | 1.125 | 2.652 | .582 | 1.326 | [4]10-32 UNF-2B x .38 deep on a 3.75 B.C. | Yes | 24 |
| | 33A3-Z3 | 5.8 | 7.795 | | | | | | | | | | | | | |
| | 33A5-Z2 | 6.8 | 7.960 | | | | | | | | | | | | | |
| | 33A5-Z3 | 6.8 | 8.860 | | | | | | | | | | | | | |
| 22B-Z | 22B3-Z2 | 5.25 | 6.326 | 2.378 | 3.42 | 1.56 | .500 | Flat/Key | .29 | 1.125 | 2.652 | .582 | 1.326 | [4]10-32 UNF-2B x .46 deep on a 3.75 B.C. | Yes | 12 or 24 |
| | 22B2-Z4 | 4.75 | 6.746 | | | | | | | | | | | | No | |
| | 22B3-Z4 | 5.25 | 7.226 | | | | | | | | | | | | Yes | |
| 22B-Z INTEGRA | 22B3-Z2 | 5.3 | 7.435 | 2.93 | 3.42 | 1.56 | .500 | Flat/Key | .29 | 1.125 | 2.652 | .582 | 1.326 | [4]10-32 UNF-2B x .46 deep on a 3.75 B.C. | No | None |
| | 22B3-Z3 | 5.3 | 8.335 | | | | | | | | | | | | | |
| | 22B2-Z4 | 4.8 | 7.885 | | | | | | | | | | | | | |
| Type WX Gearmotor | | | | | | | | | | | | | | | | |
| 34R-WX | 34R4-WX | 10.0 | 7.956 | 4.02 | 4.06 | 2.0 | .625 | Key | .56 | 1.31 | 3.375 | .863 | 1.688 | [4]1/4 -28 UNF-2B x .50 deep on a 4.78 B.C. | No | 12 |
| | 34R6-WX | 12.0 | 8.956 | 4.02 | | | | | | | | | | | | |
| 33A-WX | 33A5-WX | 9.7 | 8.665 | 3.385 | 4.06 | 2.0 | .625 | Key | .56 | 1.31 | 3.375 | .863 | 1.688 | [4]1/4 -28 UNF-2B x .50 deep on a 4.78 B.C. | Yes | 24 |
| 34B-WX | 34B3-WX | 4.8 | 6.473 | 4.02 | | | | | | | | | | | Yes | 12 or 24 |
| Type E/F & FX Gearmotor | | | | | | | | | | | | | | | | |
| 34R-FX | 34R4-FX | 11.0 | 8.112 | 4.02 | 4.64 | 2.0 | .750 | Key | .37 | 1.536 | 3.625 | .913 | 1.813 | [4]1/4 -28 UNF-2B x .50 deep on a 5.13 B.C. | No | 12 |
| 42R-FX | 42R5-FX | 14.5 | 9.128 | 4.73 | | | | | | | | | | | | |
| | 42R6-FX | 16.5 | 9.565 | 4.73 | | | | | | | | | | | | |
| 48R-FX | 48R6-FX | 26.0 | 10.487 | 5.90 | | | | | | | | | | | 4.64 | |
| 42A-FX | 42A5-FX | 14.9 | 9.323 | 4.26 | Yes | 24 | | | | | | | | | | |
| 34B-E/F | 34B3-E | 11.0 | 6.629 | 4.02 | 4.64 | 2.0 | .750 | Key | .37 | 1.536 | 3.625 | .913 | 1.813 | [4]1/4 -28 UNF-2B x .50 deep on a 5.13 B.C. | No | 12 or 24 |
| | 34B4-E/F | 12.0 | 7.129 | | | | | | | | | | | | Yes | |
| | 34B6-F | 14.0 | 8.129 | | 4.64 | 2.0 | .750 | Key | .37 | 1.536 | 3.625 | .913 | 1.813 | [4]1/4 -28 UNF-2B x .50 deep on a 5.13 B.C. | Yes | 12 or 24 |
| | | | | | | | | | | | | | | | Yes | |